

! Sequence: momp
! Sequence: incC
! Sequence: pomp91a
CLUSTAL W (1.83) multiple sequence alignment

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momp      -----
incC      -----
pomp91a    MKQMLRWGFLFLSSFCQVSYLRANDVLLPLSGIHSGEDLELFTLRSSSPKTKTYSLRKOF

momp      -----MKKLLKSVLVFAALSSASSLQALPVG--
incC      -----MTSPIPFQ--
pomp91a    IVCDFAGNSIHKPGAFLNLKGDLEFFINSTPLAALTFKNIHLGARGAGLFSESNTVFKGL
           . . .

momp      -----NPAEPSLMIDGILWEGFGGDPDCDFCATWCDALSMRVGYGDEVF
incC      -----SSGDASFLAEQFQQLPSTSESQVLTQLLTMMKHTQALSETVLQQ
pomp91a    HSLVLENNESWGGVLTTSGLDLSFINNTSVLCQNNISYGGPGALLLQGRKSKALFFRDNRG
           . . . * . . .

momp      DRVLKTDVNKEFQMGAKPTTDTGNSAAPS-----
incC      QRDRLPTASIIILQVGGAPTGGAGAPFQFG-----
pomp91a    TILFLKNKAVNQDESHPGYGGAVSSISPGSPITFADNQEILFQENEGELGGAIYNDQGAI
           . . . . . * . . .

momp      -----TLTARENPAYGRHMQDAEMFTNAACMALNIWDR--
incC      -----PADDDHHPIPPFVVPQIETEITIRSELQLMR--
pomp91a    TFENNFOQTSFFSNKASFEELSIATAISIHSGAIPYSLKTLQLKLGGAHADYVHIRDC
           . . . . . * . . .

momp      --FDVFCITLGATSGYLKNSASFNLVGLFGDNENQKTVKAESVPNMSFDQSVVELYTDTT
incC      --STLQQSTKGARTGVLVVTAILMTISLLAIILAVLGFTG--VLPQVALLMQGETN
pomp91a    KGSIVFEENSATAGGAIYNAVCDINAQGPVRFINNSALGLNGGAIYMQATGSILRLHAN
           . . . . . * . . . . .

momp      -----FAWSVGARAALWECGCATLG--
incC      -----LIWAMVSGSIICFIALIG--
pomp91a    QGDIEFCGNKQRSQFHSINSTSNETNNAITIQGAPREFSLSANEGHRICFYDPIISATE
           . . . . . * . . .

momp      -----
incC      -----
pomp91a    NYNSLYINHQRLLLEAGGAVIFSGARLSPEHKKENKNTSIIINQPVRLCSGVLSTIEGGAIL

momp      -----ASFQYQSKPKVEELNVLNCAAEF
incC      -----TLGLILTNTKNTPLPAS--
pomp91a    AVRSFYQEGGLLALGPGSKLTTQGNSEKDKIVITNLGFNLENLDSSDPAEIRATEKASI
           . . . . .

momp      TINKPKGYVGKEFFLDLTAGTDAATG-----
incC      -----
pomp91a    EISGVPRVYGHTESFYENHEYASKPYTTSIILSAKKLVTPASRPEKDIONLIIAESEYMG

momp      -----TKDASIDYHEWQASLALSYRLNMFPTYIGVKWSRASFDADTIRIA
incC      -----
pomp91a    YGYQGSWBFWSWSPNDTKEKKTIIASWTPTGTFSLDPKRRGSFIPTTLWSTFSGLNIASNI

momp      QPKSATAIFDTTTTLNPTIAGAGDVKTGAEGQLGDTMQIVSLQLNKKMSRKSCGIAVGTTI
incC      -----
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pomp91a      VNNNYLNNSEVIPLQHLQCVFGGPVYQIMEQNPKQSSNNLLVQHAGHNVGARIFFSENTIL
momp         VDADKYAVTVETRLIDERAHVNAQFRF-----
incC         -----
pomp91a      SAALTQLFSSSSQQNVADKSHAQILIGTVSLNKSQALSLRSSFSYTEDSQVMKHVFPYK
momp         -----
incC         -----
pomp91a      GTSRGSWRNYGWSGSGVMSYAYPKGIRYLKMTFFVDLQYTKLVQNPFEVETGYDPRYFSSS
momp         -----
incC         -----
pomp91a      EMTNLSLPIGIALEMRFIGSRSSSLFQVSTSYIKDLRRVNPQSSASLVLNHYTWDIQGVP
momp         -----
incC         -----
pomp91a      LGKEALNITLNSTIKYKIVTAYMGISSTQREGSNLSANAHAGLSLSF
```

“*” means that the residues or nucleotides in that column are identical in all sequences in the alignment

“.” means that conserved substitutions have been observed

“:” means that semi-conserved substitutions are observed

6693087pomp91a seq
 LOCUS AAS37561 947 aa linear PAT 20-FEB-2004
 DEFINITION Sequence 3 from patent US 6693087.
 ACCESSION AAS37561
 VERSION AAS37561.1 GI:42715796
 DBSOURCE accession AAS37561.1
 KEYWORDS
 SOURCE Unknown.
 ORGANISM Unknown.
 UNCLASSIFIED.
 REFERENCE 1 (residues 1 to 947)
 AUTHORS Murdin,A.D., Dunn,P.L. and Oomen,R.P.
 TITLE Nucleic acid molecules encoding POMP91A protein of Chlamydia
 JOURNAL Patent: US 6693087-A 3 17-FEB-2004;
 Aventis Pasteur Limited; Toronto;
 CAX;
 REMARK CAMBIA Patent Lens: US 6693087
 FEATURES Location/Qualifiers
 source 1..947
 /organism="unknown"

ORIGIN
 1 mkqmrllwgfl flssfcqvsv lrandvllpl sgihsgegle lftlrssst kttyslrkdf
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 121 hslvlennes wggvlttsgd lsfintsvl cqnnsyggp galllqgrks kalffrdnrg
 181 tilflknkav nqdeshpqyg gavssispgs pitfadnqei lfgenegelig gaiyndggai
 241 tfennfqttt ffsnkasfee lsiaataisi hsgaipyslk tllqklggai hadyvhirde
 301 kgsivfeens ataggaiavn avcdinaqgp vrfinnsalg lnggaiymqa tgsilrlhan
 361 qgdiefcgnk vrsqfhshin stsntfnna tlgagaprefs lsaneghric fydpiisate
 421 nyslyinhq rllleaggavi fsgarlspch kkenknktsi inqpvrllcsq vlsieggail
 481 avrsfyqegg llalpggskl ttqgknsekd kivitnlgn lenldssdpa eiratekasi
 541 eisgvprvyg htesfyenhe yaskpyttsi ilsakklvta psrpekdiqn llaeseymg
 601 ygyqgswefts wspndtkekk tiiaswtptg efsldpkrrg sfipttlwst fsglniasni
 661 vnnnylnnse viplqhlcvf ggpvyqimeq npkqssnll vqhaghnvga ripfsntil
 721 saaltqlfss ssqgnvadks haqiligtvs lnskswqalsl rssfysyteds qvmkhvfpyk
 781 gtsrgswrny gwsqsvqmsy aypkgirylk mtpfvdlqyt klvqnpfvet gydpryfss
 841 emtnlslpig ialemrfigs rslflqvst syikdlrrvn pqssaslvln hytwdiqgvv
 901 lgkealniti nstikykiat aymgisstqr egslsanah aglsisf

6686339incc seq
203 aa linear PAT 20-FEB-2004

LOCUS AAS33023
DEFINITION Sequence 3 from patent US 6686339.
ACCESSION AAS33023
VERSION AAS33023.1 GI:42707452
DBSOURCE accession AAS33023.1
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (residues 1 to 203)
AUTHORS Murdin,A.D., Dunn,P.L. and Oomen,R.P.
TITLE Nucleic acid molecules encoding inclusion membrane protein C of
Chlamydia
JOURNAL Patent: US 6686339-A 3 03-FEB-2004;
Aventis Pasteur Limited; Toronto;
CAX;
REMARK CAMBIA Patent Lens: US 6686339
FEATURES Location/Qualifiers
source 1..203
/organism="unknown"

ORIGIN
1 mtspipfqss gdsflaeqp qqlpstsesq lvtglltmmk htgalsetvl qqrdrllpta
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121 tkgartgvlv vtailmtisl laiiilav lgftgvlpqv allmqgetnl iwamvsgsll
181 cfialigtlg liltknkntpl pas

LOCUS Q46409 stephens momp 393 aa linear BCT 02-MAY-2006
 DEFINITION Major outer membrane protein, serovar D precursor (MOMP).
 ACCESSION Q46409
 VERSION Q46409 GI:6707730
 DBSOURCE swissprot: locus OM1D_CHLTR, accession Q46409;
 class: standard.
 created: May 30, 2000.
 sequence updated: Nov 1, 1996.
 annotation updated: May 2, 2006.
 xrefs: X62918.1, CAA44701.1, AF063195.2, AAC31436.2, AE001273.1,
 AAC68276.1, H71484
 xrefs (non-sequence databases): PHCI-2DPAGE:Q46409,
 GenomeReviews:AE001273_GR, InterPro:IPR000604, Pfam:PF01308,
 PRINTS:PR01334
 KEYWORDS Complete proteome; Ion transport; Membrane; Outer membrane; Porin;
 Signal; Transmembrane; Transport.
 SOURCE Chlamydia trachomatis
 ORGANISM Chlamydia trachomatis
 Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydia.
 REFERENCE 1 (residues 1 to 393)
 AUTHORS Sayada,C., Denamur,E. and Elion,J.
 TITLE Complete sequence of the major outer membrane protein-encoding gene
 of Chlamydia trachomatis serovar Da
 JOURNAL Gene 120 (1), 129-130 (1992)
 PUBMED 1398119
 REMARK NUCLEOTIDE SEQUENCE [GENOMIC DNA].
 STRAIN=D/8-120
 REFERENCE 2 (residues 1 to 393)
 AUTHORS Stothard,D.R., Boguslawski,G. and Jones,R.B.
 TITLE Phylogenetic analysis of the Chlamydia trachomatis major outer
 membrane protein and examination of potential pathogenic
 determinants
 JOURNAL Infect. Immun. 66 (8), 3618-3625 (1998)
 PUBMED 9673241
 REMARK NUCLEOTIDE SEQUENCE [GENOMIC DNA].
 STRAIN=D/IU-71960
 REFERENCE 3 (residues 1 to 393)
 AUTHORS Stephens,R.S., Kaiman,S., Lammel,C., Fan,J., Marathe,R.,
 Aravind,L., Mitchell,W., Olinger,L., Tatusov,R.L., Zhao,Q.,
 Koonin,E.V. and Davis,R.W.
 TITLE Genome sequence of an obligate intracellular pathogen of humans:
 Chlamydia trachomatis
 JOURNAL Science 282 (5389), 754-759 (1998)
 PUBMED 9784136
 REMARK NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
 STRAIN=D/UW-3/CX
 COMMENT On Sep 27, 2005 this sequence version replaced gi:7442973.
 [FUNCTION] Structural rigidity of the outer membrane of elementary
 bodies and porin forming, permitting diffusion of solutes through
 the intracellular reticulate body membrane.
 [SUBUNIT] Disulfide bond interactions within and between MOMP
 molecules and other components form high molecular-weight
 oligomers.
 [SUBCELLULAR LOCATION] Bacterial cell outer membrane; multi-pass
 membrane protein.
 [SIMILARITY] Belongs to the chlamydial OMP family.
 FEATURES
 source Location/Qualifiers
 1..393
 /organism="Chlamydia trachomatis"
 /db_xref="taxon:813"
 gene 1..393
 /gene="ompA"
 /locus_tag="CT_681"

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                                stephens momp
Protein      /note="synonym: omp1"
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              /locus_tag="CT_681"
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              /locus_tag="CT_681"
              /region_name="Signal"
              /inference="non-experimental evidence, no additional
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              /note="By similarity."
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              /gene="ompA"
              /locus_tag="CT_681"
              /region_name="Mature chain"
              /experiment="experimental evidence, no additional details
              recorded"
              /note="Major outer membrane protein, serovar D.
              /FTId=PRO_0000020147."

ORIGIN
1 mkkllksvlv faalssassl qalpvgnpae pslmidgilw egfggdpcdp catwcdaism
61 rvgyygdfvf drvlktdvnk efqmgakptt dtqnsaapst ltarenpayg rhmqdaemft
121 naacmalniw drfdvfctlg atsgylkgns asfnlvglfg dnengktvka esvpmnsfdq
181 svvelytdtt fawsvgaraa lwecgcatlg asfyaqskp kveelnvlcn aaftinkpk
241 gyvgkefpld ltagtdaatg tkdasidyhe wqaslalsyr lnmftpyigv kwsrasfdad
301 tiriaqpksa taifdtttln ptiagagdvk tgaegqlgdt mqivslqlnk mksrkscgia
361 vgttividak yavtvetrli deraahvnaq frf

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